Supporting Information for

Determination of Aflatoxin B_1 in *Pixian Douban* based on Aptamer-Magnetic Solid-Phase extraction

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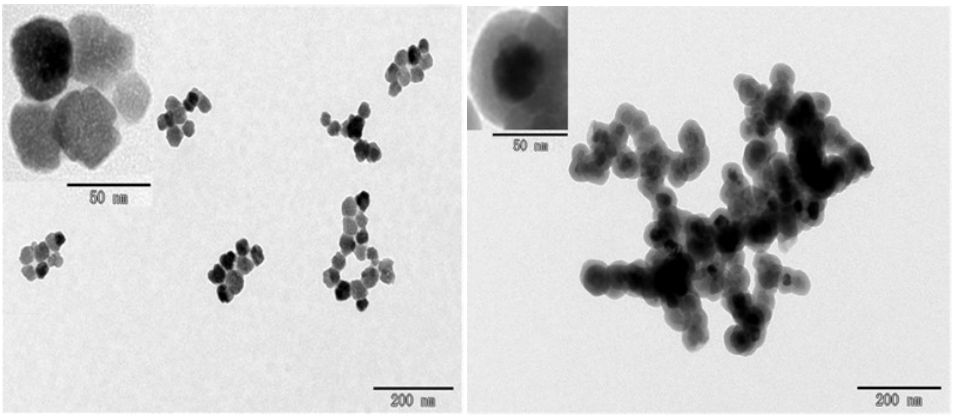
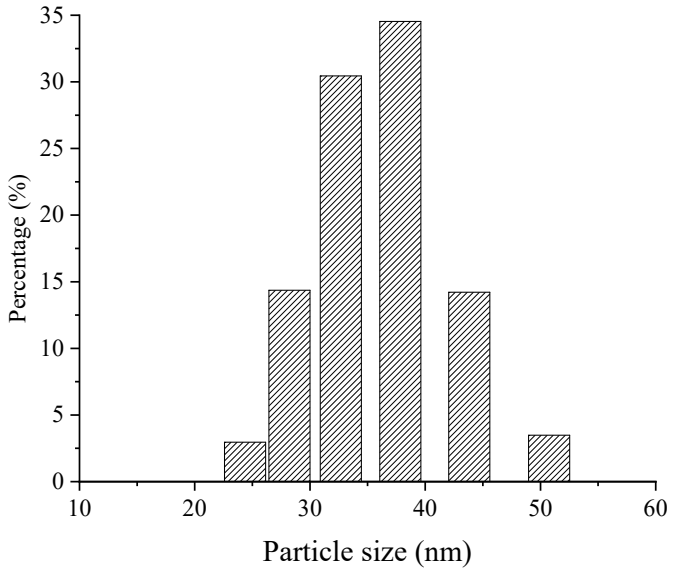
Figure S1 TEM images of Fe_3O_4 (a) and Fe_3O_4@SiO_2 (b)



(a) (b)

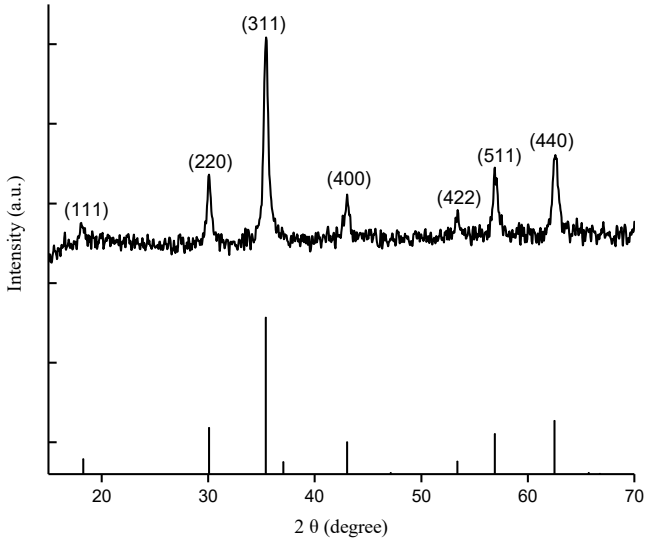
Different Morphology of Fe_3O_4before and after embedding SiO_2. Figure S1. (a) Transmission Electron Microscope of Fe_3O_4. (b) Transmission Electron Microscope of Fe_3O_4@SiO_2.

Figure S2 Particle size distribution of Fe_3O_4



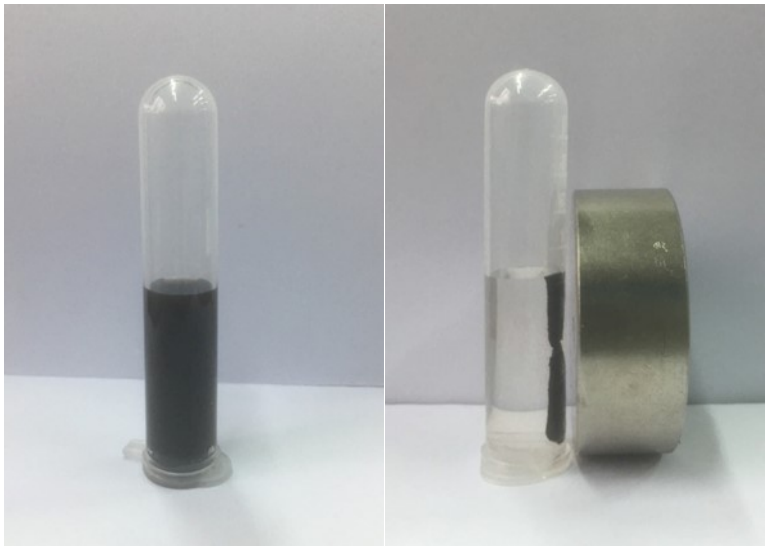
The data are the characterization of the particle size of the prepared Fe3O4 by nano-particle size analyzer.

Figure S3 XRD pattern of Fe_3O_4



The crystal form of the prepared nano-magnetic bead Fe_3O_4 was characterized by X-ray diffraction (XRD).

Figure S4 The dispersion stability of Fe_3O_4@SiO_2 in deionized water (a) and magnetic response to the applied magnetic field (b)

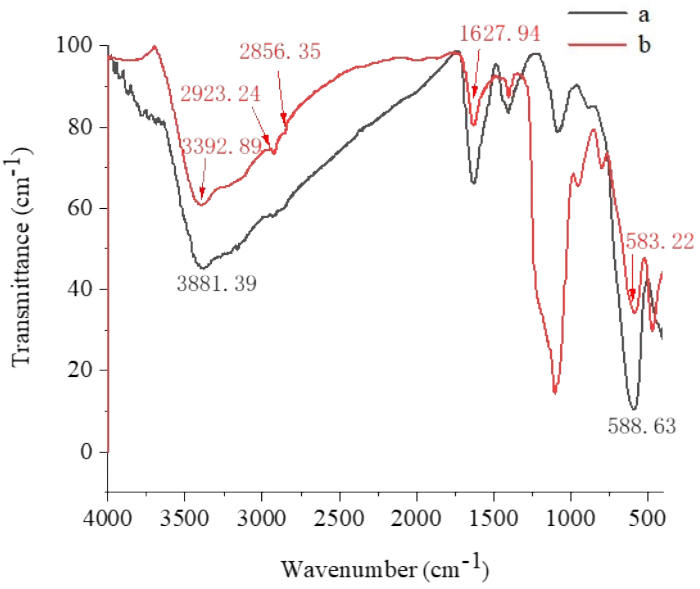


(a) (b)

Figure S4. (a) Fe_3O_4@SiO_2 dispersed uniformly in deionized water . Figure S4. (b) In the presence of an external magnetic field, Fe_3O_4 @ SiO_2 can respond quickly and

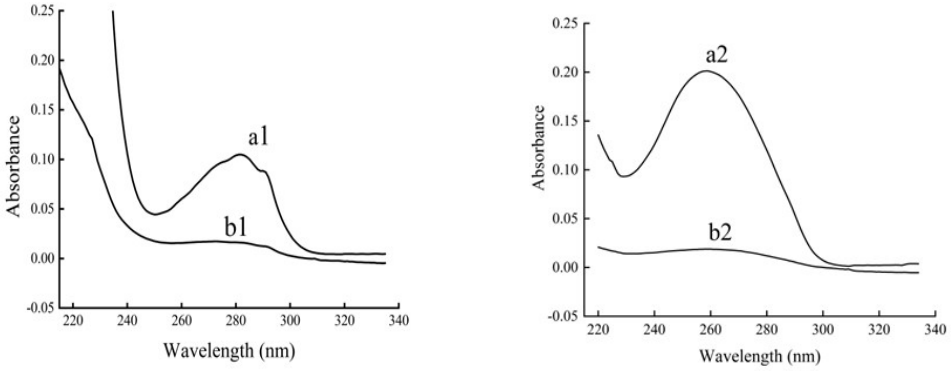
gather in the direction of magnet, indicating that the Fe_3O_4 surface coated with SiO_2 still maintains strong magnetic properties.

Figure S5 The FT－IR spectra of Fe3O4 (a) and Fe3O4@SiO2－NH2 (b)



Fourier Transform Infrared Spectroscopy (FT-IR) Analysis of the Surface Groups of Fe_3O_4 and Amino Modified Silica Magnetic Beads.

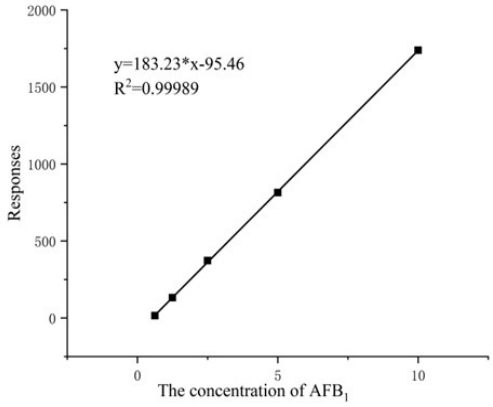
Figure S6 UV－V is absorption spectra of avidin (a) and aptamer (b) before and after the reaction



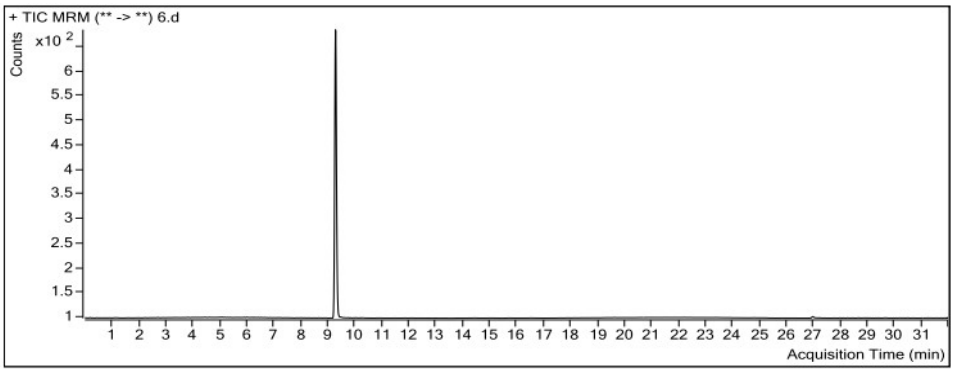
(a1) avidin stock solution; (bl) avidin solution after glutaraldehyde; (a2) aptamer solution; (b2) aptamer solution after reacting with avidinized magnetic beads.

Figure S7 Detection of AFB_1 by HPLC-MS/MS. Standard curve of AFB_1(a). MRM chromatogram of AFB_1 in the Pixian Douban sample (b, c)

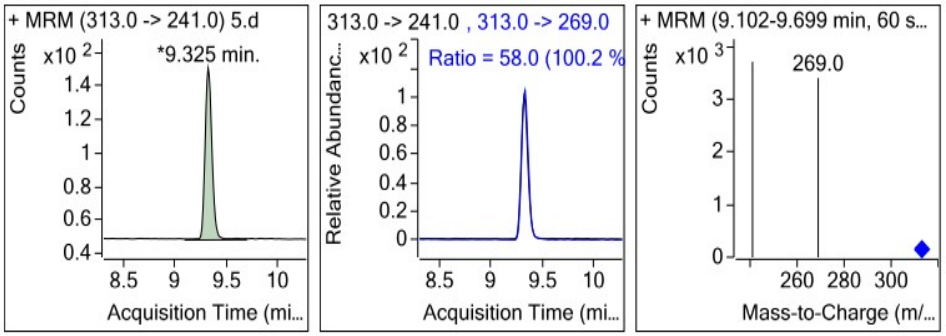
a



b



C



The linear equations of AFB_1 in blank *Pixian Douban* samples are y = 183.23x – 95.46(R^2 =0.99989). The mass spectrometric analysis was performed in MRM. For fragmentation of the

$AFB_1[M+H]^+$ ions is 313 m/z. The detected and quantified fragment ions were: 241 and 269 m/z for AFB_1.